

REMARKS

Claims 1-43 are pending in the application.

The drawings are objected to because they do not include a reference to "database 200", which is described on page 5, line 23 as being depicted in FIG.2. Fig.2 is amended to include the numerical identifier "200" referring to the database. Thus, Applicants respectfully submit that the objection has been overcome and request withdrawal of the objection.

Claims 27 and 28 are rejected under 35 USC 112 as having insufficient antecedent basis. Claims 27 and 28 are amended to overcome the rejection.

Claims 1, 2, 8-10, 12-15, 17, 18, 24, 25, 27-29, 31, 32, 38, 39, 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by International Publication No. WO 99/08206 to Sinander, hereinafter "Sinander". Claims 1, 17 and 31 are independent. Applicants respectfully traverse this rejection.

Claim 1 provides a method for supporting versioning of data. The method includes the steps of 1) associating version numbers, each having a different value, with a data item, 2) storing a most recent version of the data item in a first table, 3) storing a version of the data item other than the most recent version in a second table, and 4) determining the version of a stored data item based on the version number and a storage location of the stored data item.

Sinander discloses a method for upgrading databases using a table for storing data and a stored procedure for processing data stored in said table (page 2, lines 28-32). The steps include 1) creating a new table, 2) copying data from the table to the new table, 3) adding a new version of the stored procedure to the database, and 4) adding an additional stored procedure to the database (page 2, line 33 – page 3, line 7).

New tables are created to receive data stored in the old tables, and the new tables are used by the database until the upgrade is complete (p. 5, lines 9-12).

Sinander also discloses a method for upgrading a database by replacing an old version of a database component that provides database functionality with a new version of the database component (p. 3, lines 16-19). During upgrade, the old version of the database component and the new version of the database component are used at least temporarily in parallel, and an additional database component provides a link to both versions of the database component (p. 3, lines 20-25). The link can be provided by a "systemtable", which can be a table of the database (p. 3, lines 27-30). An example of a systemtable is shown on page 7, lines 10-22, showing all versions of a stored procedure in a single table.

A systemtable is used for upgrading a database by installing new versions of all or some stored procedures in the database, and possibly adding new stored procedures (p. 8, lines 1-4). The systemtable is updated with names/versions of the new stored procedures, i. e., target versions are added (p. 8, lines 4-6). To keep old and new tables of the database synchronized, additional stored procedures such as sp_a_upgr and sp_c_upgr are added to the systemtable (p. 8, lines 6-9).

Sinander thus discloses a method of updating a database that calls for the use of two tables to store identical data while components of a database are updated. Those components of the database that are updated are stored together in a single "systemtable" with other versions of the component. Therefore, Sinander discloses copying identical data in separate tables, but discloses **storing different versions of database components in a single table**. Sinander does not disclose storing different versions of data or components in separate tables. In contrast, claim 1 provides that a most recent version of a data item is stored in a first table, and **previous versions of the data item are stored in a second table**.

Therefore, because Sinander fails to disclose that different versions of a data

item are stored in different tables, Sinander does not disclose a method for supporting versioning of data that includes “storing a most recent version of said data item in a first table [and] storing a version of said data item other than said most recent version in a second table,” as recited in claim 1.

Thus, Sinander fails to disclose or suggest the elements of claim 1. Therefore, claim 1 is patentable over Sinander.

Claims 2, 8-10 and 12-15 depend from claim 1. For at least reasoning provided in support of claim 1, claims 2, 8-10 and 12-15 are also patentable over Sinander.

Independent claim 17 provides a system for supporting versioning of data. The system includes a memory and means for associating version numbers, each having a different value, with a data item. The system also includes means for storing a most recent version of the data item in the memory and a second table for storing a version of the data item other than the most recent version in the memory. The system further includes means for determining the version of a stored data item based on the version number and a storage location of the stored data item.

As described above, Sinander discloses a method of updating a database in which components of the database that are updated are stored together in a single “systemtable” with other versions of the component. In contrast, claim 17 provides that a most recent version of a data item is stored in a memory, and previous versions of the data item are stored in a second table.

Therefore, because Sinander fails to disclose that different versions of a database component are stored in distinct tables, Sinander does not disclose a system for supporting versioning of data that includes “means for storing a most recent version of said data item in said memory and a second table for storing a version of said data item other than said most recent version in said memory,” as recited in claim 17.

Claims 18, 24, 25 and 27-29 depend from claim 17. For at least reasoning similar to that provided in support of claim 17, claims 18, 24, 25 and 27-29 are also patentable over Sinander.

Independent claim 31 includes recitals similar to claim 1. Therefore, for at least reasoning similar to that provided in support of claim 1, claim 31 is patentable over Sinander.

Claims 32, 38, 39, 41 and 42 depend from claim 31. For at least reasoning similar to that provided in support of claim 31, claims 32, 38, 39, 41 and 42 are also patentable over Sinander.

For the reasons set forth above, the rejection of claims 1, 2, 8-10, 12-15, 17, 18, 24, 25, 27-29, 31, 32, 38, 39, 41 and 42 under 35 U.S.C. 102(b) as anticipated by Sinander is overcome. Applicants respectfully request that the rejection of claims 1, 2, 8-10, 12-15, 17, 18, 24, 25, 27-29, 31, 32, 38, 39, 41 and 42 be reconsidered and withdrawn.

Claims 3-6, 19-22 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinander in view of U.S. Patent No. 5,410,695 to Frey et al., hereinafter "Frey". Applicants respectfully traverse this rejection.

As described above in the discussions of independent claims 1, 17 and 31, Sinander discloses storing different versions of a database component together in a single "systemtable". Therefore, Sinander fails to disclose or suggest the elements of any of claims 1, 17 and 31.

Frey discloses a system in which individual data entries are placed in a shared data processor and applications sharing access to the data are presented with various techniques for accessing the data independent of the physical location of the data within the processor, but rather represent attributes of the data entries (col. 3, lines 9-19).

However, Frey does not disclose a method for supporting versioning of data including "storing a most recent version of said data item in a first table . . . [and] storing a version of said data item other than said most recent version in a second table," as recited in claim 1.

Neither Sinander nor Frey disclose a method for supporting versioning of data including storing a most recent version of the data item in a first table and storing a version other than the most recent version in a second table. Thus, Sinander and Frey, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 1. Therefore, claim 1 is patentable over the cited combination of Sinander and Frey.

Claims 3-6 depend from claim 1. For at least reasoning similar to that provided in support of claim 1, claims 3-6 are patentable over the cited combination of Sinander and Frey.

Also, Frey does not disclose a system for supporting versioning of data including "means for storing a most recent version of said data item in said memory and a second table for storing a version of said data item other than said most recent version in said memory," as recited in claim 17.

Neither Sinander nor Frey disclose a system for supporting versioning of data including means for storing a most recent version of a data item in a memory and a second table for storing a version of the data item other than the most recent version in the memory. Thus, Sinander and Frey, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 17. Therefore, claim 17 is patentable over the cited combination of Sinander and Frey.

Claims 19-22 depend from claim 17. For at least reasoning similar to that provided in support of claim 17, claims 19-22 are patentable over the cited combination

of Sinander and Frey.

Independent claim 31 includes recitals similar to claim 1. Therefore, for at least reasoning similar to that provided in support of claim 1, claim 31 is patentable over the cited combination of Sinander and Frey.

Claims 33-36 depend from claim 31. For at least reasoning similar to that provided in support of claim 31, claims 33-36 are also patentable over the cited combination of Sinander and Frey.

For the reasons set forth above, the rejection of claims 3-6, 19-22 and 33-36 as unpatentable over Sinander in view of Frey is overcome. Applicants respectfully request that the rejection of claims 3-6, 19-22 and 33-36 be reconsidered and withdrawn.

Claims 7, 23 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinander in view of Frey, and further in view of U.S. Patent No. 6,591,342 to Akkary et al., hereinafter "Akkary". Applicants respectfully traverse this rejection.

As described above in the discussions of independent claims 1, 17 and 31, Sinander and Frey, whether considered independently or in combination with one another, fail to disclose all of the elements of any of claims 1, 17 and 31.

Akkary discloses a method for executing instructions that includes receiving a store instruction and inserting the instruction into a queue (col. 2, lines 24-28). The method also includes issuing and removing a store instruction from a queue to a memory (col. 2, lines 29-31). A memory disambiguation apparatus includes a queue configured to hold all of the store instructions that are in an instruction window (col. 2, lines 45-47).

However, Akkary does not disclose a method for supporting versioning of data including "storing a most recent version of said data item in a first table . . . [and] storing

a version of said data item other than said most recent version in a second table," as recited in claim 1.

Neither Sinander, Frey nor Akkary disclose a method for supporting versioning of data including storing a most recent version of the data item in a first table and storing a version other than the most recent version in a second table. Thus, Sinander, Frey and Akkary, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 1. Therefore, claim 1 is patentable over the cited combination of Sinander, Frey and Akkary.

Claim 7 depends from claim 1. For at least reasoning similar to that provided in support of claim 1, claim 7 is patentable over the cited combination of Sinander, Frey and Akkary.

Also, Akkary does not disclose a system for supporting versioning of data including "means for storing a most recent version of said data item in said memory and a second table for storing a version of said data item other than said most recent version in said memory," as recited in claim 17.

Neither Sinander, Frey nor Akkary disclose a system for supporting versioning of data including means for storing a most recent version of a data item in a memory and a second table for storing a version of the data item other than the most recent version in the memory. Thus, Sinander, Frey and Akkary, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 17. Therefore, claim 17 is patentable over the cited combination of Sinander, Frey and Akkary.

Claim 23 depends from claim 17. For at least reasoning similar to that provided in support of claim 17, claim 23 is patentable over the cited combination of Sinander, Frey and Akkary.

Independent claim 31 includes recitals similar to claim 1. Therefore, for at least

reasoning similar to that provided in support of claim 1, claim 31 is patentable over the cited combination of Sinander, Frey and Akkary.

Claim 37 depends from claim 31. For at least reasoning similar to that provided in support of claim 31, claim 37 is also patentable over the cited combination of Sinander, Frey and Akkary.

For the reasons set forth above, the rejection of claims 7, 23 and 37 as unpatentable over Sinander in view of Frey and further in view of Akkary is overcome. Applicants respectfully request that the rejection of claims 7, 23 and 37 be reconsidered and withdrawn.

Claims 11, 26 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinander in view of U.S. Publication No. 2002/0103815 to Duvillier et al., hereinafter "Duvillier". Applicants respectfully traverse this rejection.

As described above in the discussions of independent claims 1, 17 and 31, Sinander discloses storing different versions of a database component together in a single "systemtable". Therefore, Sinander fails to disclose or suggest the elements of any of claims 1, 17 and 31.

Duvillier discloses a method and computer program for performing a data modifying transaction of a data object to a database (par. 16). An entry for a data object containing version data for the data object is created and maintained in an object table (par. 16). If the entry represents multiple versions of the data object, a version collection procedure is triggered in which an oldest version of the data object is selected and it is determined whether it is non-collectable (par. 17). If it is determined that the oldest version is non-collectable, that version is deleted (par. 17).

However, Duvillier does not disclose a method for supporting versioning of data including "storing a most recent version of said data item in a first table . . . [and] storing a version of said data item other than said most recent version in a second table," as

recited in claim 1.

Neither Sinander nor Duvillier disclose a method for supporting versioning of data including storing a most recent version of the data item in a first table and storing a version other than the most recent version in a second table. Thus, Sinander and Duvillier, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 1. Therefore, claim 1 is patentable over the cited combination of Sinander and Duvillier.

Claim 11 depends from claim 1. For at least reasoning similar to that provided in support of claim 1, claim 11 is patentable over the cited combination of Sinander and Duvillier.

Also, Duvillier does not disclose a system for supporting versioning of data including "means for storing a most recent version of said data item in said memory and a second table for storing a version of said data item other than said most recent version in said memory," as recited in claim 17.

Both Sinander and Duvillier fail to disclose a system for supporting versioning of data including means for storing a most recent version of a data item in a memory and a second table for storing a version of the data item other than the most recent version in the memory. Thus, Sinander and Duvillier, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 17. Therefore, claim 17 is patentable over the cited combination of Sinander and Duvillier.

Claim 26 depends from claim 17. For at least reasoning similar to that provided in support of claim 17, claim 26 is patentable over the cited combination of Sinander and Duvillier.

Independent claim 31 includes recitals similar to claim 1. Therefore, for at least reasoning similar to that provided in support of claim 1, claim 31 is patentable over the

cited combination of Sinander and Duvillier.

Claim 40 depends from claim 31. For at least reasoning similar to that provided in support of claim 31, claim 40 is also patentable over the cited combination of Sinander and Duvillier.

For the reasons set forth above, the rejection of claims 11, 26 and 40 as unpatentable over Sinander in view of Duvillier is overcome. Applicants respectfully request that the rejection of claims 11, 26 and 40 be reconsidered and withdrawn.

Claims 16, 30 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sinander in view of U.S. Publication No. 2002/0073089 to Schwartz et al., hereinafter "Schwartz". Applicants respectfully traverse this rejection.

As described above in the discussions of independent claims 1, 17 and 31, Sinander discloses storing different versions of a database component together in a single "systemtable". Therefore, Sinander fails to disclose or suggest the elements of any of claims 1, 17 and 31.

Schwartz discloses a database management system having an Internet web browser front end that is accessible from a system user's Internet web browser at a predetermined Internet web site (par. 18). A user can navigate through a database by pointing and clicking a system input device, such as a mouse, in conjunction with a displayed HTML system navigation form (par. 19).

However, Schwartz does not disclose a method for supporting versioning of data including "storing a most recent version of said data item in a first table . . . [and] storing a version of said data item other than said most recent version in a second table," as recited in claim 1.

Both Sinander and Schwartz fail to disclose a method for supporting versioning

of data including storing a most recent version of the data item in a first table and storing a version other than the most recent version in a second table. Thus, Sinander and Schwartz, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 1. Therefore, claim 1 is patentable over the cited combination of Sinander and Schwartz.

Claim 16 depends from claim 1. For at least reasoning similar to that provided in support of claim 1, claim 16 is patentable over the cited combination of Sinander and Schwartz.

Also, Schwartz does not disclose a system for supporting versioning of data including "means for storing a most recent version of said data item in said memory and a second table for storing a version of said data item other than said most recent version in said memory," as recited in claim 17.

Both Sinander and Schwartz fail to disclose a system for supporting versioning of data including means for storing a most recent version of a data item in a memory and a second table for storing a version of the data item other than the most recent version in the memory. Thus, Sinander and Schwartz, whether considered independently or in combination with one another, fail to disclose all of the elements of claim 17. Therefore, claim 17 is patentable over the cited combination of Sinander and Schwartz.

Claim 30 depends from claim 17. For at least reasoning similar to that provided in support of claim 17, claim 30 is patentable over the cited combination of Sinander and Schwartz.

Independent claim 31 includes recitals similar to claim 1. Therefore, for at least reasoning similar to that provided in support of claim 1, claim 31 is patentable over the cited combination of Sinander and Schwartz.

Claim 43 depends from claim 31. For at least reasoning similar to that provided

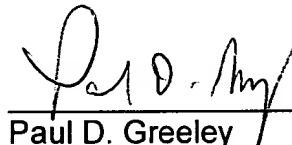
in support of claim 31, claim 43 is also patentable over the cited combination of Sinander and Schwartz.

For the reasons set forth above, the rejection of claims 16, 30 and 43 as unpatentable over Sinander in view of Schwartz is overcome. Applicants respectfully request that the rejection of claims 16, 30 and 43 be reconsidered and withdrawn.

An indication of the allowability of all pending claims by issuance of a Notice of Allowability is earnestly solicited.

Respectfully submitted,

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IN THE DRAWINGS:

Please replace FIG. 2 with the amended version included herewith.